

CLEAN COPY OF ALL PENDING CLAIMS

65. (Once Amended) A purified and isolated Osteoclastogenesis Inhibitory Factor (OCIF) binding protein comprising a molecular weight of approximately 40,000 Daltons by SDS-PAGE, wherein said OCIF-binding protein promotes osteoclast differentiation and maturation.
66. The OCIF-binding protein of claim 65, wherein said protein is a mouse protein.
67. The OCIF-binding protein of claim 66, wherein said protein is a human protein.
69. (Once Amended) The OCIF-binding protein of claim 65, comprising an amino acid sequence selected from the group consisting of SEQ ID NO. 1, SEQ ID NO. 11, SEQ ID NO. 16, and SEQ ID NO. 17.
72. The OCIF-binding protein of claim 65, wherein said protein is soluble.
73. (Once Amended) The OCIF-binding protein of claim 65, wherein said protein lacks a transmembrane domain.
74. The OCIF-binding protein of claim 65, wherein said protein is a secreted protein.
75. The OCIF-binding protein of claim 65, wherein said protein is a membrane-bound protein.
76. The OCIF-binding protein of claim 65, wherein said protein is fused to a heterologous protein sequence and retains OCIF-binding activity.
77. (Once Amended) A purified and isolated polypeptide encoded by a nucleic acid sequence selected from the group consisting of SEQ ID NO. 2, SEQ ID NO. 12, SEQ ID NO. 15, SEQ ID NO. 18 and SEQ ID NO. 19, or a nucleic acid sequence which hybridizes at 2X SSC, 65°C to the complement of any of SEQ ID

NO. 2, SEQ ID NO. 12, SEQ ID NO. 15, SEQ ID NO. 18, and SEQ ID NO. 19,
and wherein said polypeptide has the ability to bind OCIF.

78. (Once Amended) The OCIF-binding protein of claim 77, wherein said protein is a recombinant protein produced by expression in a host cell.
79. The OCIF binding protein of claim 77 or 78, wherein said protein exhibits activity promoting osteoclast differentiation and maturation.
80. An isolated nucleic acid molecule comprising a nucleic acid sequence selected from the group consisting of SEQ ID NO. 12, SEQ ID NO. 15, SEQ ID NO. 18, and SEQ ID NO. 19.
81. (Once Amended) An isolated nucleic acid molecule capable of hybridizing in 2X SSC, 65°C to the complement of a nucleic acid sequence selected from the group consisting of SEQ ID NO. 12, SEQ ID NO. 15, SEQ ID NO. 18, and SEQ ID NO. 19, and encoding a protein which binds to OCIF.
82. A DNA fragment amplified using primers comprising SEQ ID NO. 9 and SEQ. ID NO. 6.
85. The isolated nucleic acid of claim 80, wherein said OCIF-binding protein comprises amino acid residues 76-316 of SEQ ID NO. 1.
86. The isolated nucleic acid of claim 80, wherein said OCIF-binding protein comprises amino acid residues 72-316 of SEQ ID NO. 1.
87. The isolated nucleic acid of claim 80, wherein said OCIF-binding protein comprises the amino acid sequence of SEQ ID NO. 1.
88. (Once Amended) The isolated nucleic acid of claim 80, wherein the protein encoded by said nucleic acid suppresses the biological activity of OCIF.

89. The isolated nucleic acid of claim 80, wherein said OCIF-binding protein comprises the amino acid sequence of SEQ ID NO. 17.
90. (Once Amended) The isolated nucleic acid of claim 80, wherein the protein encoded by said nucleic acid suppresses the biological activity of OCIF.
91. A method of recombinantly producing OCIF-binding protein, comprising expressing the nucleic acid of claim 80 in a host cell.